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ABSTRACT

An overview of the uses of microcomputers in special education management is provided. Following a list of nine applications of microcomputers to educational management is a brief description of microcomputers currently used in education. A listing of five firms currently marketing special education management software includes information of software applications, flexibility, and cost. Suggestions for selecting and evaluating software focus on documentation, cost, input, output, flexibility, training, and hardware. Resources for further information are provided. (LP)

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MANAGERIAL APPLICATIONS OF THE MICROCOMPUTER FOR SPECIAL EDUCATION TEACHERS

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For Your Information

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Ten years ago, the use of computers in most school districts was not feasible due to their unavailability, expensive hardware, and lack of appropriate software. Now, typewriter-sized machines that have the capabilites of their older, room-sized counterparts have entered the scene. Due to rapid technological developments, these portable computers, called microcomputers or "micros," are less expensive, more versatile, and often more reliable than their larger sized predecessors. The reduced cost of owning and operating micros, easy availability of hardware through major distributors, and improved capabilities have made microprocessing an increasingly popular technology in the schools.

Many special educators have discovered the endless uses of microcomputers to aid in the education of handicapped children. They are currently using microcomputers to facilitate the education of hearing and visually impaired, mentally retarded, learning disabled, physically impaired, and emotionally disturbed students. Presently, microcomputers are being used to assist in the mainstreaming of special students, to facilitate curriculum and activity selections based on individual students strengths and weaknesses, to tailor programs to individual student needs, and to modify instruction based on individual student response.

Of interest to many special educators is the application of the microcomputer for managing the detailed documentation required by Public Law 94-142 for each handicapped student they serve. Monitoring the progress of students through the special education process (paying close attention to state and federal regulations), preparing IEP's and annual reviews, locating/organizing/and managing resource materials for a variety of handicapped students, and offering programs with individualized instructional goals are just a few of the many managerial responsibilities delegated to the special education teacher. Many of these tasks require routine record keeping, precise documentation, and long hours of report writing that can be overwhelming as well as reduce the amount of time available for direct teaching and consultation activities. However, using the microcomputer to assist in special education managerial responsibilities can cut hours of excessive paperwork, record keeping, and report writing by automating many routine, clerical tasks.

Special educators can use micros as management tools for:

- Storing demographic and educational information on students and their special needs,
- Recording, monitoring, and reporting student progress,
- Listing incomplete information on student records,
- Recording contacts with parents and supporting agencies/personnel,
- Recording, monitoring and reporting student due process status,
- Generating reports on referrals, meetings, evaluation, placement, programming and review for each student,
- Locating, describing, and recommending appropriate materials based on individual student needs,
- Generating IEP objectives from a large data base, and
- Issuing reminders for when reports are due

Some of the more popular microcomputers currently used in education include Radio Shack's TSR-80, the APPLE, Commodore's PET, and Texas Instrument's 9914, but there are many others available on the market. Software (the term for all instructions written to guide the computer in its processing of information) written for special education management is available through regional and state development teams, software firms, and computer vendors. Presently, the software market has more instructional packages available for special education than management packages. But there are firms that currently supply such programs, and many more firms currently developing them. Here is a small sampling of these programs:

- MicroPlanner Curriculum Management and Teacher Planning systems are both software packages to be used on the APPLE II and other microcomputers. The Curriculum Management package can be used to organize goals and related objectives, methodology, materials, and user-defined categories. The Teacher Planning system creates IEP's and progress reports in compatible format.

  Learning Tools, Inc.
  4 Washburn Place
  Brookline, Massachusetts 02146
  (617) 566-7585

  You can request an extended listing of over 60 special education management systems from this company for $2.50.
- Performance Assessment Reporting System (PARS) and IEP Objectives Bank are both software packages designed for use with the APPLE microcomputer. PARS will automate and record data, as well as generate reports from any set of objectives. It can be used with the IEP Objectives Bank which provides a teacher or supervisor with a complete listing of objectives that include academic, psychomotor, affective, and social development skills.

  Educational Services Management Corporation
  P.O. Box 12599
  Research Triangle Park, NC 27709
  (919) 781-1500
- The Information Manager, a flexible data management software package, is useful for designing your own information reports. Used on the APPLE, it is capable of defining, entering, sorting, searching, modifying, deleting, selecting, and printing records. Up to twenty fields are possible per record. The Information Manager is available through:

  High Technology Software Products, Inc.
  P.O. Box 14665
  8001 North Classen Blvd.
  Oklahoma City, OK 73113
  (405) 840-9900
- Comprehensive Achievement Monitoring (CAM) provides computer processing support for monitoring students' progress on instructional objectives. Operating on the APPLE, the CAM pro-

vides decision-making information to students, teachers, administrators, and parents. This package will store objectives and test forms, score student responses, and generate reports indicating individual student and/or group performances on course objectives. Designed for the APPLE.

Available out of Minnesota through:
Hopkins Evaluation Center
Hopkins School District, Hopkins, MN 55343

or

Minnesota Educational Computing Consortium
2520 Broadway Drive
St. Paul, MN 55113
(612) 376-1118

- The Programming for Individualized Education package (PIE) assists in the development and maintenance of individualized records and IEP's. Pupil record files include demographic data, educational setting, test scores, procedural safeguards, administrative procedures tracking, special services and instructional hours, and other required data. A bank of objectives can be maintained for use in the development of the IEP. This package can be used on the PET, APPLE, TRS-80, and North Star microcomputers. For more information contact:

  Microcomputer Education Applications Network
  Mean Software
  256 North Washington Street
  Falls Church, Virginia 22046
  (706) 536-2310

A word of caution about software:

Commercial software packages can usually be modified to meet specific user needs; so except for simple modifications, software development is best left to the experts. Simple programming of software is a demanding process; writing programs is time consuming and expensive (they not only have to be written, they have to be debugged). Because packages on the market are generalized to meet a wide variety of user needs, you will lose some flexibility in meeting your district's individualized needs. However, unless you have the time, staff, and money to design and program and test a system, you will probably want to look at existing packages.

In order to select/evaluate software that is cost effective as well as useful for your purposes, there are several things to consider when making your selection:

- Documentation—Look at the actual documentation of all aspects of the system. Is there a non-technical explanation of how to use the package? Does it offer a general narrative of what the program specifically does? Does it offer samples of printed output documents?
- Cost—Keep in mind hidden costs as well as up front ones. Software maintenance can get expensive. Is there a maintenance agreement? How long is the warranty?
- Input—Does the software package offer you the required data elements for your needs (is it designed to record the information you want)? Is it easy to enter data? Is it easy to correct input errors?

- Output—Will this package give you the kind of output documents you want? In the format you want? What kinds of reporting options does it offer?
- Flexibility—If your present needs change, will you be able to modify your system to meet those needs? What is required to make small modifications?
- Training—What type of training is needed to use the package? What is available presently? Is there any follow-up training available?
- Hardware—If you don't presently own a microprocessor, it might be a good idea to pick out the software that best meets your needs, and choose the micro that is compatible. Remember, not all software is compatible with all microcomputers, so make sure that the package you buy is useable on your system.

FOR FURTHER INFORMATION

There is a vast array of computer oriented educational organizations, clearinghouses, journals, and software vendors you may want to contact. The following list is just a small sampling of what's available.

Organizations

- Microcomputer Education Applications Network (MEAN)
  256 North Washington Street
  Falls Church, Virginia 22046
  (703) 536-2310
  MEAN, a division of Education TURNKEY Systems, Inc., is a network that facilitates the development and dissemination of microcomputer applications in education. MEAN helps local school districts and state education agencies develop educational computing systems and conducts workshops for administrators or teachers. They publish MEAN Brief.
- Association for Development of Computer-Based Instructional Systems (ADCIS)
  Computer Center, Western Washington University
  Bellingham, Washington 98225
  (206) 676-2860
  ADCIS is a nonprofit organization with members from elementary and secondary school systems, colleges, universities, business and industry, as well as military and government agencies. Their purposes include 1) the advancement of investigation and utilization of computer-based instruction and/or management, 2) promotion and facilitation of the interchange of information, programs, and materials, and 3) specification of requirements and priorities for hardware and software development. They put out several publications, including the Journal of Computer-Based Instruction.

Clearinghouses

- APPLE Computer Clearinghouse for the Handicapped
  Prentke Romich Company
  R.D. 2, P.O. Box 191
  Shreve, Ohio 44676
  (216) 567-2906
  The purpose of this new clearinghouse will be to disseminate information on the availability and function of APPLE computer software and hardware, with particular reference to the severely handicapped. They hope to market software that is tested and approved by Prentke Romich Company personnel, as well as provide information on commercial products.
- MicroSIFT
  Northwest Regional Educational Laboratory
  300 S.W. Sixth Avenue
  Portland, Oregon 97204
  (503) 248-6800
  MicroSIFT is a clearinghouse that collects, organizes, and disseminates information about microcomputer-based applications in education. This National Institute for Education-funded project has designed and field tested an evaluation model for instructional applications based on the cooperation of a network of centers of educational computing.

Journals

- Classroom Computer News
  P.O. Box 266
  Cambridge, Massachusetts 02138
  Published by Intentional Educators, this journal explores innovative applications of computers for curriculum, special education, and school administration. Information on the newest products, grants, research, and programs is covered.
- The Computing Teacher
  Computing Center, Eastern Oregon State College
  La Grande, Oregon 97850
  Published by the International Council for Computers in Education, this journal is for persons interested in the instructional use of computers. The journal emphasizes teaching about computers, using computers, teacher education, and the impact of computers on curriculum.

Directories

- School Microware Directory
  Dresden Associates
  Dept. CCN-3
  P.O.Box 246, Dresden, Maine 04342
  This directory lists over 1,200 products for over 95 suppliers from the APPLE, ATARI, PET and TRS-80 micros. Grade levels from K-12 are covered. It offers a user software review program and school administrative software.
- Educator's Hot Line
  Vital Information, Inc.
  800-255-5119
  Vital Information, Inc., publisher of Educator's Handbook and Software directory, also provides a free hot line for questions about software and classroom or administrative applications.